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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,003	04/10/2001	Martin Lavoie	1561-68	9571

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EXAMINER	
HOSSAIN, TANIM M	
ART UNIT	**PAPER NUMBER**
2145	

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/829,003	LAVOIE ET AL.	
	Examiner	Art Unit	
	Tanim Hossain	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) *1-23,25,35 and 45* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24,26-34,36-44 and 46-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24, 26-31, 34, 36-41, 44, and 46-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Addink (U.S. 6,042,477) in view of Jacobs (U.S. 6,126,548).

As per claim 24, Addink teaches a computer network having a plurality of terminals each having a processor, a memory, a manual input, and a network connection, wherein each of said terminals executes instructions to define a shared virtual environment (column 3, lines 1-11); each of said instructions includes a local object defining a local entity, said object including data defining attributes of said entity, wherein said entity is perceived by a user as being controllable within said shared virtual environment in response to manual control that changes said data (column 4, lines 37-65); said local object is duplicated on other network terminals as a duplica (column 4, lines 45-52); each terminal predicts the data of its duplicas (4; 53-65); each terminal modifies the predicted data of its duplicas in response to receiving updates from the duplicas' originating terminals (4; 37-65); and each originating terminal sends updates to specific destination terminals in dependence of an assessment of update necessity, wherein said assessment includes a measurement of relevance between a first entity and a second entity, said first entity being defined by the local object at said originating terminal and said second entity

being defined by a local object at the destination terminal (column 5, lines 1-9). Addink does not specifically teach the comparison of the predicted duplica data versus the actual data of the remote object to cause an update. Jacobs teaches the use of dead reckoning techniques, where if the predicted position of the duplica diverges too much from the actual position of the remote object, an update is sent (column 5, lines 17-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the updating of duplica information in response to the predicted and actual data exceeding an allowable threshold of divergence, to arrive at the claimed system, as taught by Jacobs in the system of Addink. The motivation for doing so lies in the fact that using a dead reckoning system would save bandwidth, which would greatly alleviate latency issues. Both inventions are from the same field of endeavor, namely improvements in multi-player network gaming, in relation to bandwidth and latency.

As per claim 26, Addink-Jacobs teaches a computer network according to claim 24, wherein said assessment of update necessity includes the computation of an error value, and said originating terminal sends an update if said computed error value is larger than an error tolerance that is a function of said measurement of relevance (Addink: column 6, lines 20-55; Jacobs: 5; 17-40).

As per claim 27, Addink-Jacobs teaches a computer network according to claim 24, wherein said measurement of relevance is performed by comparing the data of said local object of said originating terminal and the predicted data of the duplica defining said second entity that is stored on said originating terminal (Addink: column 6, lines 20-67; Jacobs: 5; 17-40).

As per claim 28, Addink-Jacobs teaches a computer network according to claim 24, wherein said measurement of relevance is a measurement of distance between the positions of

said first and second entities in said shared virtual environment as defined by the data of said objects (Addink: column 5, lines 1-9; Jacobs: 5; 17-40).

As per claim 29, Addink-Jacobs teaches a computer network according to claim 24, wherein each of said entities is considered to have a visible area of said shared virtual environment based on the attributes of said entity and the layout of said environment, and said measurement of relevance is a function of the position of said first entity within said shared virtual environment with respect to the visible area of said second entity (Addink: column 4, lines 37-65; Jacobs: 5; 17-40).

As per claim 30, Addink-Jacobs teaches a computer network according to claim 24, wherein said attributes of an entity include the position within said shared virtual environment of said entity (Addink: column 4, lines 37-65; Jacobs: 5; 17-40).

As per claim 31, Addink-Jacobs teaches a computer network according to claim 24, wherein said attributes of an entity include the direction and velocity of travel of said entity within said shared virtual environment (Addink: column 4, lines 37-65; Jacobs: 5; 17-40).

Claims 34, 36-41, 44, and 46-51 are rejected on the same bases as claims 24, and 26-31 respectively.

Claims 32, 33, 42, 43, 52, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Addink-Jacobs in view of Katz (U.S. 5,623,642).

As per claim 32, Addink-Jacobs teaches a computer network according to claim 24, but does not specifically teach that the attributes of an entity include the state of a weapon of said entity. Katz teaches the sending of packets, which enumerate weapons characteristics (column 2

lines 41-52). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the ability to receive weapon information in the context of a flight simulation, as taught by Katz in the system of Addink-Jacobs. Receiving weapon status would enable the player to better plan a course of action based on the weapons armed. All inventions are from the same field of endeavor, namely efficient network gaming with multiple users.

As per claim 33, Addink-Jacobs-Katz teaches a computer network according to claim 24, wherein said assessment of update necessity includes a measurement of the available network bandwidth (Katz: column 3, lines 25-59; column 3, lines 1-13; where the trading off of bandwidth dependent features, like updating, in response to available bandwidth constitutes a measurement of available network bandwidth).

Claims 42, 43, 52, and 53 are rejected on the same bases as claims 32 and 33.

Response to Arguments

The arguments filed on December 13, 2005 have fully been considered and have respectfully been traversed by the new grounds of rejection. Additionally, motivation to combine the Addink-Jacobs and Katz references exists, because all references are drawn to the same problem, which, in this case, is the efficient updating of player data in a multi-player network system. One of ordinary skill in the art at the time of the invention would find the updating of an enemy's weapon status - a widely known concept in network gaming - to be obvious. Further, given that the problem areas of all of the cited inventions deal with the concept of bandwidth and network latency (which are closely related), one of ordinary skill in the art

would find combining embodiments - which all teach the alleviation of bandwidth usage and latency problems in a multi-player system - to be obvious also, and would find motivation to do so.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571/272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tanim Hossain
Patent Examiner
Art Unit 2145

JASON CARDONE
SUPERVISORY PATENT EXAMINER